

SECTION 05580 - FORMED-METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Column covers.

1.3 PERFORMANCE REQUIREMENTS

- A. Corrosion Control: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Column covers.
 - 2. Structural anchors.
 - 3. Nonstructural anchors.
 - 4. Paint products.
- B. Shop Drawings: Detail fabrication and installation of column covers. Include plans, elevations, sections, and details of components and their connections. Show anchorage and accessory items.



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- C. Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of formed-metal fabrication indicated.
 - D. Samples for Verification: For each type of exposed finish required, prepared on 3 by 5-inch- (75 by 125-mm-) samples of metal of same thickness and material indicated for the Work. If finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
 - E. Certificates: Certificates from the manufacturer of column covers certifying that products furnished comply with requirements including finish.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing formed-metal fabrications similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Source Limitations: Obtain formed-metal fabrications through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver formed-metal fabrications wrapped in protective coverings and strapped together in suitable packs or in heavy-duty cartons. Remove protective coverings before they stain or bond to finished surfaces.
- B. Store products on elevated platforms in a dry location.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Where formed-metal fabrications are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Co-

ordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to:
1. Baker Metal Products, Inc.
 2. Fry Reglet Corporation.
 3. MM Systems Corporation.

2.2 SHEET METAL

- A. General: Provide sheet metal without pitting, seam marks, roller marks, stains, discoloration, or other imperfections where exposed to view on finished units.
- B. Aluminum Sheet: Flat sheet complying with **ASTM B 209 (ASTM B 209M)**, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy 3003-H14, minimum 0.063 inches, 14 gauge (1.6).

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners: Use fasteners fabricated from same basic metal and alloy as fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.

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1. Provide concealed fasteners for interconnecting formed-metal fabrications and for attaching them to other work, unless otherwise indicated.
 2. Provide Phillips flat-head machine screws for exposed fasteners, unless otherwise indicated.
- B. Anchors: Provide anchors of type, size, and material necessary for type of load and installation indicated, as recommended by the manufacturer from options listed below, unless otherwise indicated. Use nonferrous-metal or hot-dip galvanized anchors for exterior installations and elsewhere as needed for corrosion resistance.
1. Powder-actuated fasteners.
 2. Metal expansion sleeve anchors.
 3. Metal impact expansion anchors.

2.4 PAINT

- A. Shop Primers: Provide primers that comply with Division 9 Section "Painting."

2.5 FABRICATION, GENERAL

- A. Shop Assembly: Pre-assemble formed-metal fabrications in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
- B. Coordinate dimensions and attachment methods of formed-metal fabrications with those of adjoining construction to produce integrated assemblies with closely fitting joints and with edges and surfaces aligned, unless otherwise indicated.
- C. Form metal to profiles indicated, in maximum lengths to minimize joints. Produce flat, flush surfaces without cracking or grain separation at bends. Fold back exposed edges of unsupported sheet metal to form a 1/2-inch- (12-mm-) wide hem on the concealed side, or ease edges to a radius of approximately 1/32 inch (1 mm) and support with concealed stiffeners.

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- D. Increase metal thickness or reinforce with concealed stiffeners, backing materials, or both, as needed to provide surface flatness specified for stretcher-leveled sheet metal and sufficient strength for indicated use.
 - 1. Support joints with concealed stiffeners as needed to hold exposed faces of adjoining sheets in flush alignment.
 - E. Build in straps, plates, and brackets as needed to support and anchor fabricated items to adjoining construction. Reinforce formed-metal units as needed to attach and support other construction.
 - F. Provide support framing, mounting and attachment clips, splice sleeves, fasteners, and accessories needed to install formed-metal fabrications.
 - G. Where welding or brazing is indicated, weld or braze joints and seams continuously. Grind, fill, and dress to produce smooth, flush, exposed surfaces in which joints are not visible after finishing is completed.
 - 1. Use welding and brazing procedures that will blend with and not cause discoloration of metal being joined.

2.6 COLUMN COVERS

- A. Snap-Together Type: Form column covers to shapes indicated from metal of type and thickness indicated below. Return vertical edges and bend to form hook that will engage continuous mounting clips.
 - 1. Aluminum Sheet: 0.063 inch (1.6 mm).
 - 2. Form returns at vertical joints to provide soft vee joints.
 - 3. Fabricate column covers with 1/2-inch- (12-mm-) wide reveals at horizontal joints produced by forming returns on mating ends of column cover sections. Provide snap-in metal filler strips at reveals matching reveals at vertical joints. Locate horizontal joints as indicated.

2.7 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.



- B. Apply finishes to formed metal after fabrication, unless otherwise indicated.

2.8 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. High-Performance Organic Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1. Fluoropolymer Two-Coat System: Manufacturer's standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
 - a. Color and Gloss: As selected from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate and place formed-metal fabrications level, plumb, and in alignment with adjacent construction.
- B. Use concealed anchorage where possible. Provide brass or lead washers fitted to screws where needed to protect metal surfaces and to make a weathertight connection.
- C. Form tight joints with exposed connections accurately fitted together. Provide reveals and openings for sealants and joint fillers as indicated.
- D. Install concealed gaskets, joint fillers, insulation, and flashing, as the Work progresses, to make exterior formed-metal fabrications weatherproof.



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- E. Install concealed gaskets, joint fillers, and insulation, as the Work progresses, to make interior formed-metal fabrications soundproof or light-proof as applicable to the type of fabrication indicated.
 - F. Corrosion Protection: Coat concealed surfaces of aluminum, zinc-coated, and nonferrous metals that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

3.2 ADJUSTING

- A. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units.

3.3 PROTECTION

- A. Protect finishes of formed-metal fabrications from damage during construction period. Remove temporary protective coverings at time of Substantial Completion.

END OF SECTION 05580

